

sub
BIS

44. (New) The evacuation apparatus according to claim 41, further comprising a piece of fabric-like sheet material, said apparatus operably coupled to said piece of material.
45. (New) The evacuation apparatus according to claim 41, wherein said plenum has a bottom wall, wherein said bottom wall of said plenum includes an adhesive layer for adhesive attachment of said head around a surgical site.
46. (New) The evacuation apparatus according to claim 41, wherein said plenum is constructed of a generally non-porous material.
47. (New) The evacuation apparatus according to claim 41, wherein said plenum support is constructed of a generally porous material.
48. (New) The evacuation apparatus according to claim 41, wherein said fluid source supplies an inert gas through said head.

REMARKS

Claims 1-5, 17 and 24 were rejected under 35 USC 112, first paragraph, as it was unclear to the Examiner what the term "manifold" means. Applicant respectfully directs the Examiner's attention to the specification at page 24, line 15 - page 25, line 9, and to Figure 19e which together describe the manifolds. Additionally, Applicant has amended the claims to recite "manifold barrier." Therefore, Applicant requests that the rejection be withdrawn.

Claims 1, 10-12, and 21 were rejected under 25 USC 102(b) and being "unpatentable by" [sic] Shultz et al. ("Shultz").

The Shultz reference provides an end effector coupled with a vacuum. As the Examiner is well aware, a reference must teach each and every claimed element in order to anticipate that claim. With respect to claim 1, Shultz fails to teach a head operatively coupled to a fluid source.

Thus, this reference cannot anticipate claim 1 or any claim that depends therefrom and the Examiner is respectfully requested to withdraw the rejection.

With respect to Claim 21, as amended herein, Shultz fails to teach providing a source of ultra-clean air and coupling said head and said source of ultra-clean air while coupling the same head to a source of vacuum to remove fumes from a workspace. As such, the Examiner is respectfully requested to withdraw the rejection.

Claims 14, 15 and 19-20 were rejected under 25 USC 102(e) as being "unpatentable by" [sic] Yeh et al. ("Yeh").

Yeh discloses a smoke evacuation apparatus for use in electrosurgery or laser surgery for dermatologic procedures (Col. 1, lines 9-12). An independent collection nozzle is provided and coupled with a vacuum. A separate independent fluid pressure nozzle is provided and is coupled with a source of pressurized air. There is no teaching that the air need be ultra-clean, nor is there a reason it should be.

The Yeh device serves two purposes. First, it allows the collection nozzle to be located at a greater distance from the lasing site. (Col. 2, lines 20-26). Second, it allows the surgeon to readily move and reposition both the collection nozzle and the fluid pressure nozzle. Such repetitive movement is generally desirable in dermatologic procedures because such procedures may involving lasing larger surface areas of skin and the Yeh device is repositioned for each movement. (Col. 5, lines 4-9).

As amended, claim 14 requires a working head having a central opening for at least partially surrounding a surgical site, said working head operably coupled to a vacuum source and a source of clean air, and including at least one inlet connectable to the source of clean air and at

least one outlet connected to the vacuum source, whereby actuation of at least the vacuum source produces an air flow of clean air through the central opening and over the surgical site.

Yeh does not teach a single structure that is coupled with both a vacuum source and a clean air source. Further, Yeh does not teach providing a fluid pressure supply that delivers clean air, which is used to reduce the occurrence of infection in open surgical procedures. As no unitary structure is provided, no central opening can be provided and thus, air flow through a central opening cannot be provided. Clearly, Yeh does not anticipate claim 14 or any claim that depends therefrom and the Examiner is respectfully requested to withdraw the rejection.

Claims 2, 7, 8, 13, 22-23 and 26-27 were rejected under 35 USC 103(a) as being unpatentable over Schultz in view of Yeh. This rejection is respectfully traversed.

In general, the Shultz and Yeh devices are not combinable without detracting from the above stated purposes of Yeh. In other words, Yeh teaches away from the asserted combination. Yeh teaches having a vacuum nozzle independent from an air flow nozzle so that the distance from the surgical site can be maximized. The shape of the vacuum nozzle is explained in detail so that this purpose can be facilitated. The stronger the flow of air, the further the vacuum can effectively be placed. Further, the Yeh device is configured to be moved around to many locations during one procedure. This is inconsistent with an end effector that is positioned with adhesive over a selected surgical site. Thus, not only is there no motivation to combine the teachings of Shultz with Yeh, Yeh teaches away from such a combination. For at least these reasons, the Examiner is respectfully requested to withdraw the rejections under section 103(a).

The Examiner has indicated that claims 6, 9, 18 and 25 would be allowable if rewritten in independent form. By the above amendment, these claims have been rewritten in independent form and are believed to be allowable.

Application Number: 09/710,288

Docket: 6956

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Marked-up Version Showing Changes.**"

The above amendments generate a claim fee in the amount of \$609.00, and a check in that amount is enclosed herewith. The Office is hereby authorized to charge any deficiencies, or credit any overpayment, to Deposit Account 04-1420.

As all of the claims are now believed to be in condition for issuance, a Notice of Allowance is earnestly solicited.

This application now stands in allowable form and reconsideration and allowance is respectfully requested.

Respectfully submitted,

DORSEY & WHITNEY LLP

By: 

David E. Bruhn
Reg. No. 36,762
Suite 1500
50 South Sixth Street
Minneapolis, MN 55402-1498
(612) 340-6317

Date: 

MARKED-UP VERSION SHOWING CHANGES

IN THE CLAIMS

3. (Once Amended) The evacuation apparatus according to claim 2, further comprising at least a plurality of manifold[s] barriers carried by said plenum, wherein said manifolds cover a portion of said inner periphery adjacent to said one nozzle operatively coupled to said fluid source.

4. (Once Amended) The evacuation apparatus according to claim 3, wherein said manifold[s] barriers are solid.

5. (Once Amended) The evacuation apparatus according to claim 3, wherein said manifold[s] barriers are perforated.

6. (Once Amended) An evacuation apparatus for removing gaseous byproducts or noxious vapors comprising:

a head operatively coupled to a vacuum and a fluid source, said head substantially defining a plenum, said plenum having an inner periphery defining a generally central opening, said plenum having a generally open facing adjacent to the inner periphery; wherein said head is operatively coupled to said fluid source with at least one nozzle, and operatively coupled to said vacuum with at least one nozzle, wherein said at least one nozzle operatively coupled to said

fluid source and said at least one nozzle operatively coupled to said vacuum are generally opposed:

a plenum support for preventing the plenum from collapsing when a low pressure is established therein; and

[The evacuation apparatus according to claim 2, further comprising] at least one baffle located in said plenum between said nozzle operatively coupled to said fluid source and said central opening.

9. (Once Amended) An evacuation apparatus for removing gaseous byproducts or noxious vapors comprising:

a head operatively coupled to a vacuum and a fluid source, said head substantially defining a plenum, said plenum having an inner periphery defining a generally central opening, said plenum having a generally open facing adjacent to the inner periphery;

a plenum support for preventing the plenum from collapsing when a low pressure is established therein; and

[The evacuation apparatus according to claim 1, further comprising] a piece of fabric-like sheet material, said apparatus operably coupled to said piece of material.

14. (Once Amended) A medical appliance comprising a working head having a central opening for at least partially surrounding [for being positioned adjacent to] a surgical site and said working head operably coupled to a vacuum source and a source of clean air, said working head including at least one inlet connectable to the source of clean air and at least one outlet

connected to the vacuum source, whereby actuation of at least the vacuum source produces an air flow of clean air [adjacent to] through the central opening and over the surgical site.

16. (Once Amended) The medical appliance according to claim 14, wherein said working head defines a plenum[, said plenum having at least one central opening, wherein said plenum] that has a generally open facing adjacent to an inner periphery of said at least one central opening of said plenum.

17. (Once Amended) The medical appliance according to claim 16 further comprising a plurality of manifold[s] barriers carried by said plenum, wherein said manifold[s] barriers cover a portion of said inner periphery adjacent to said at least one inlet.

18. (Once Amended) A medical appliance comprising a working head for being positioned adjacent to a surgical site and operably coupled to a vacuum source and a source of clean air, said working head including at least one inlet connectable to the source of clean air and at least one outlet connected to the vacuum source, whereby actuation of at least the vacuum source produces an air flow of clean air adjacent to the surgical site, wherein said working head defines a plenum, said plenum having at least one central opening, wherein said plenum has a generally open facing adjacent to an inner periphery of said at least one central opening of said plenum and [The medical appliance according to claim 16,] further comprising at least one baffle located in said plenum between said at least one inlet and said at least one central opening.

21. (Once Amended) A method for removing fumes from a workspace, comprising;

providing the workspace;

providing a head, said head substantially defining a plenum, said plenum having an inner periphery defining a generally central opening, said plenum having a generally open facing adjacent to the inner periphery, said plenum having a plenum support for preventing the plenum from collapsing when a low pressure is established therein;

providing a vacuum source;

providing a source of ultra-clean air;

coupling said head and said vacuum source; [and]

coupling said head and said source of ultra-clean air; and

actuating said vacuum source and aid source of ultra-clean air, whereby fumes are removed from the workspace.

24. (Once Amended) The method according to claim 23, said head further comprising a plurality of manifold[s] barriers carried by said plenum, wherein said manifold[s] barriers cover a portion of said inner periphery adjacent to said fluid source connection point.

25. (Once Amended) A method for removing fumes from a workspace, comprising;

providing the workspace;

providing a head, said head substantially defining a plenum, said plenum having an inner periphery defining a generally central opening, said plenum having a generally open facing adjacent to the inner periphery, said plenum having a plenum support for preventing the plenum from collapsing when a low pressure is established therein;

providing a vacuum source;

coupling said head and said vacuum source;

actuating said vacuum source, whereby fumes are removed from the workspace;

providing a fluid source, and operably coupling said head and said fluid source at a fluid source connection point;

actuating said fluid source to provide a flow of fluid to said head, wherein [The method according to claim 23,] said head further [comprising] comprises at least one baffle located in said plenum between said fluid source connection point and said central opening.

28. (New) An evacuation apparatus for removing gaseous byproducts or noxious vapors comprising:

a head operatively coupled to a vacuum and an ultra clean fluid source, said head substantially defining a plenum, said plenum having an inner periphery having a generally central opening defining a 360 degree arc, said plenum having a generally open facing adjacent to the inner periphery so that laminar air flow from the ultra-clean fluid source and the vacuum act together to evacuate gaseous material across an area defined by the 360 degree arc; and

a plenum support for preventing the plenum from collapsing when a low pressure is established therein.

29. (New) The evacuation apparatus according to claim 28, wherein said head is operatively coupled to said fluid source with at least one nozzle, and operatively coupled to said vacuum with at least one nozzle, wherein said at least one nozzle operatively coupled to said fluid source and said at least one nozzle operatively coupled to said vacuum are generally opposed.

30. (New) The evacuation apparatus according to claim 29, further comprising at least one baffle located in said plenum between said nozzle operatively coupled to said fluid source and said central opening.
31. (New) The evacuation apparatus according to claim 28, wherein said fluid source supplies generally particle-free air to said head.
32. (New) The evacuation apparatus according to claim 28, further comprising a piece of fabric-like sheet material, said apparatus operably coupled to said piece of material.
33. (New) The evacuation apparatus according to claim 28, wherein said plenum has a bottom wall, wherein said bottom wall of said plenum includes an adhesive layer for adhesive attachment of said head around a surgical site.
34. (New) The evacuation apparatus according to claim 28, wherein said plenum is constructed of a generally non-porous material.
35. (New) The evacuation apparatus according to claim 28, wherein said plenum support is constructed of a generally porous material.
36. (New) The evacuation apparatus according to claim 28, wherein said fluid source supplies an inert gas through said head.
37. (New) A medical appliance comprising a working head having a central opening for being positioned around a surgical site, the working head operably coupled to a vacuum source and a source of clean air, said working head including at least one inlet connectable to the source of clean air and at least one outlet connected to the vacuum source, whereby actuation of the vacuum source and the source of clean air produces a laminar flow of clean air through the central opening and over the surgical site, wherein an inflow of the vacuum source is greater than or equal to an outflow of the source of clear air including any gaseous materials removed.

38. (New) The medical appliance according to claim 37, further comprising at least one baffle located in said working head between said at least one inlet and said central opening.

39. (New) The medical appliance according to claim 37, wherein said working head substantially contains air flow when actuation of the vacuum source occurs.

40. (New) The medical appliance according to claim 37, wherein said at least one inlet and said at least one outlet are on generally opposite sides of said working head.

41. (New) An evacuation apparatus for removing gaseous byproducts or noxious vapors comprising:

a head operatively coupled to a vacuum and an ultra-clean fluid source, said head substantially defining a plenum, said plenum having an inner periphery having a generally central opening surrounding a surgical site and through which the ultra clean fluid source provides a laminar air flow wherein an outflow of the ultra-clean fluid source is less than or equal to an inflow of the vacuum, said plenum having a generally open facing adjacent to the inner periphery; and

a plenum support for preventing the plenum from collapsing when a low pressure is established therein.

42. (New) The evacuation apparatus according to claim 41, wherein said head is operatively coupled to said fluid source with at least one nozzle, and operatively coupled to said vacuum with at least one nozzle, wherein said at least one nozzle operatively coupled to said fluid source and said at least one nozzle operatively coupled to said vacuum are generally opposed.

43. (New) The evacuation apparatus according to claim 42, further comprising at least one baffle located in said plenum between said nozzle operatively coupled to said fluid source and said central opening.

44. (New) The evacuation apparatus according to claim 41, further comprising a piece of fabric-like sheet material, said apparatus operably coupled to said piece of material.
45. (New) The evacuation apparatus according to claim 41, wherein said plenum has a bottom wall, wherein said bottom wall of said plenum includes an adhesive layer for adhesive attachment of said head around a surgical site.
46. (New) The evacuation apparatus according to claim 41, wherein said plenum is constructed of a generally non-porous material.
47. (New) The evacuation apparatus according to claim 41, wherein said plenum support is constructed of a generally porous material.
48. (New) The evacuation apparatus according to claim 41, wherein said fluid source supplies an inert gas through said head.